UNITED STATES PATENT AND TRADEMARK OFFICE

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10/723,949	11/26/2003	Stephen Gold	100204298-1	9416

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EXAMINER
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ART UNIT	PAPER NUMBER
2163	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/723,949	GOLD ET AL.
Office Action Summary	Examiner	Art Unit	
	Thanh-Ha Dang	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 November 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3-39 and 42</u> is/are pending in the application.

    4a) Of the above claim(s) <u>2,40 and 41</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3-39 and 42</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>26 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1, 3-39 and 42 are rejected in this Office Action.

2. Applicant cancelled Claims 2 and 40-41.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/04/08 has been entered.

Response to Amendment

4. Receipt of Applicant's Amendment filed on 11/04/08 is acknowledged.

5. Claim Rejections – 35 USC § 101 is maintained. Please see below section for details.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 19 recites an article of manufacture comprising "a processor-usable tangible **medium**", which is in view of Applicant's disclosure, Specification page 15 [0063] wherein "exemplary processor-usable media may include any one of physical media such as "electronic, optical, electromagnetic, infrared, etc.", the medium is not limited to tangible embodiments, **instead being defined as including both tangible embodiments** (e.g., floppy diskette, memory, etc.) **and intangible embodiments** (e.g., infrared, data signal, carrier wave, etc.). **As such, the claim is not limited to statutory subject matter** and is therefore non-statutory. Claims 20-22 are dependent of Claim 19, and therefore are also rejected.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12, 11, 15, 19 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

invention.   Claims 12, 11, 15, 19 and 23 respectively recite the limitation "a

trafficking database" which is not described nor defined in the Specification.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claims 3-10 and 31-35 recite the limitation "The system" that lack of

antecedent basis for this limitation in the claim. Further, Claims 3-10 and 31-35

are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. It is not clear whether the limitation "the

system" refers to "a data management system" or "a computer system" as recited

in claim 1.

Claims 12-14 recite the limitation "The system of" that lack of antecedent

basis for this limitation in the claim.

Claims 16-18 and 36 recite the limitation "The device of" that lack of

antecedent basis for this limitation in the claim.

Claims 37-39 recite the limitation "The article of" that lack of antecedent

basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

This application currently names joint inventors. In considering

patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that

the subject matter of the various claims was commonly owned at the time any

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a

later invention was made in order for the examiner to consider the applicability of

35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35

U.S.C. 103(a).

Claims 1 and 3-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 5,870,765 issued to Bauer et al. (Bauer),

further in view of Pub. No. US2005/0071390 issued to Midgley et al. ("Midgley"),

and further in view of US Patent No. 7,257,649 issued to Rabbers et al.

("Rabbers").

As to **Claims 1, 11, 15, 19 and 23**, *Bauer teaches* a data management

system comprising:

- a plurality of storage devices *(Figure 1, block12 and block22a-x-z)* individually comprising a physical storage space *(Figure 1, wherein block12a-x-z illustrate physical storage space),* wherein the physical storage space of one of the storage devices is configured to store a baseline version of a data object *(Figures 1 and 3, wherein server central database (block10) has storage device (block12) which store before-image which is equivalent to a baseline version data object, column 2, lines 15-17)* and the physical storage space of an other of the storage devices is configured to store a delta version of the data object *(Figures 1-2, wherein clients (block20a-x-z) with local databases (22a-x-z) store delta version which is modifications detected by comparing the client data with a before-image of the client data, column 8, lines 3-20)*; and

- processing circuitry configured to control storage operations of at least one of the storage devices *(Figure 1 wherein block11 corresponds to the processing circuitry, column 8, line 24)* to process a restore request with respect to the data object *(column 9, lines 34-39 wherein the synchronization process read on the restore request process limitation recited in column 1, lines 50-51),* to access the delta version from the other of the storage devices responsive to the restore request *(column 7, lines 45-46 wherein modifications are propagated via the synchronizer),*

- and to initiate communication of data of the baseline version and the delta version of the data object to a computer system *(Figure 1 wherein label15 and label25a-x-z illustrate initiating communication of data to a computer system, column 6, lines 51-55),*

- *Bauer does not explicitly teach* wherein accessing the delta version includes querying a trafficking database of a cell manager to obtain data indicating storage locations of the delta version. However,

  Midgley teaches wherein accessing the delta version includes querying a trafficking database *(Figures 1A-C, page 11 [0091])* of a cell manager to obtain data indicating storage locations of the delta version *(Figures 3-5, page 1 [0014]; and page 10 [0073])*. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine method for backing up data files teaching of Midgley with database synchronizer teaching of Bauer to provide method and system which detect changed locations and identify changes for backing up data files (Midgley [0004]).

- *Bauer in combination with Midgley does not explicitly teach* wherein the processing circuitry is further configured to act as a proxy to extract remotely stored delta versions. However,

  Rabbers teaches wherein the processing circuitry is further configured to act as a proxy to extract remotely stored delta versions *(column 11, lines 53-58)*. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine method for transferring information during server synchronization with a computing device teaching of Rabbers with method for backing up data files teaching of Midgley and database synchronizer teaching of Bauer to provide method and system wherein data and information transferred from one computer system into another are restored to consistency that further minimize cost of synchronization by

reducing communication costs and delays in synchronizing database data (Bauer, column 1 lines 55-57).

As to **Claims 3, 14 and 21**, *Bauer, Midgley in combination with Rabbers teaches* wherein a client agent *(Bauer, Figure 2, block27 wherein the synchronizer represents the client agent)* of the computer system is configured to combine the delta version *(Bauer, Figure 2 wherein block22x-X illustrates the delta version)* with the baseline version *(Bauer, Figure 2 wherein block62x-X illustrates the baseline version which is represented by before-image log)* to provide a restored version of the data object *(Bauer, Figure 2 wherein the synchronizer provides in block60x-X the restored version of the data object which is represented by the replicated table, column 8, lines 3-20).*

As to **Claim 4 and 25**, *Bauer, Midgley in combination with Rabbers teaches* wherein the processing circuitry *(Bauer, Figure 3, block11)* comprises processing circuitry of the one of the storage devices which stores the baseline version of the data object *(Bauer, Figure 1, label21a-x-z, column 6, lines 18-24 wherein the central database (block12) stores the baseline version of the data object (block12a-z)).*

As to **Claims 5, 13 and 29**, *Bauer, Midgley in combination with Rabbers teaches* wherein the one of the storage devices is configured to receive the delta version from the computer system *(Bauer, Figure 1 via label15 and label25a-x-z show bi-directional connection among computer system to receive the modification/update that correspond to a delta version, column 2, lines 51-53),* and the processing circuitry is configured to forward the delta version to the other

of the storage devices *(Bauer, Figure 6A wherein block310-340 forward the delta version to the other storage devices, column 11, lines 49-55).*

As to **Claims 6, 18, 22 and 30**, *Bauer, Midgley in combination with Rabbers teaches* wherein the processing circuitry is configured to forward the delta version to the other of the storage devices responsive to a status of capacity of the one of the storage devices *(Bauer, column 1, lines 52-54 wherein the updates (which correspond to the delta version) performed by either client or server are propagated to the other side when a connection is established that read on forwarding the delta version by the processing circuitry).*

As to **Claims 7, 16 and 27**, *Bauer, Midgley in combination with Rabbers teaches* further comprising a database *(Bauer, Figure 1, block12 and block22a-x-z)* configured to store information regarding storage operations of individual ones of the storage devices, and wherein the processing circuitry *(Bauer, Figure 1, block11 and block21a-x-z)* is configured to access the database to obtain a location of the delta version of the data object on the other storage device responsive to the restore request *(Bauer, column 6, lines 10-11 and lines 18-19).*

As to **Claims 17, 20 and 24**, *Bauer, Midgley in combination with Rabbers teaches* wherein the processing circuitry is configured to combine the delta version with the baseline version to provide a restored version of the data object *(Bauer, Figure 5A, wherein block115 and 120 illustrate the steps to combine the delta version with the baseline version to provide a restored version of the data object illustrated in block125, column 9, lines 34-65 and column 10, lines 23-31),*

and to control the communication of the restored version of the data object to the computer system *(Bauer, Figures 6A-B, column 11, lines 29-42)*.

As to **Claims 8 and 26**, *Bauer, Midgley in combination with Rabbers teaches wherein the processing circuitry comprises processing circuitry of a client agent associated with the computer system (Bauer, column 1, lines 64-66 wherein the database synchronizer is equivalent to a client agent)*.

As to **Claim 9**, *Bauer, Midgley in combination with Rabbers teaches further comprising a local area network configured to communicate the delta version intermediate the one and the other storage devices (Bauer, Figure 1 wherein each client node represents a local area network, column 6, lines 16-24; wherein the bi-directional connection among network5, server10 and client20a-x-z illustrate local area network configured to communicate the delta version intermediate the one and the other storage devices)*.

As to **Claims 10 and 28**, *Bauer, Midgley in combination with Rabbers teaches further comprising a storage area network configured to communicate the delta version intermediate the one and the other storage devices (Bauer, Figures 1-2, wherein block20a-x-z contain block22a-x-z which are bi-directionally connected through the network5 that constitutes the storage area network, column 6, line 53)*.

As to **Claim 12**, *Bauer, Midgley in combination with Rabbers teaches* wherein the processing means of the other of the storage subsystem means comprises means for uncompressing data of the delta version, and for initiating communication of the uncompressed data of the delta version to the one of the

storage subsystem means *(Bauer, Figure 1 wherein label15 and label25a-x-z*

illustrate initiating communication of data to a computer system, column 6, lines

51-55).

As to **Claim 31**, *Bauer, Midgley in combination with Rabbers teaches*

wherein the computer system is a host device external of the data management

system *(Bauer, Figure 1 displays computer system e.g. block10, block20a that is*

a host device external of the data management system).

As to **Claim 32**, *Bauer, Midgley in combination with Rabbers teaches*

wherein the computer system is a host device external of the data management

system and the computer system is configured to execute an application program

to generate the baseline and delta versions of the data object *(Bauer, Figure 1,*

block17 wherein the synchronizer represents the application program to generate

the baseline and delta versions of the data object, column 2, lines 5-21).

As to **Claim 33**, *Bauer, Midgley in combination with Rabbers teaches*

wherein the data object comprises a data file *(Bauer, Figure 1, label12a-x-z*

represent data files, column 3, line 50).

As to **Claim 34**, *Bauer, Midgley in combination with Rabbers teaches*

wherein the data object comprises a data file and the delta version of the data file

only comprises changes made to the baseline version of the data file *(Bauer,*

column 3, lines 38-41 wherein the modification, determined by a difference

comparison between the current value in the active table and the before value in

the before image table, corresponds to the delta version of the data file and the

before image table corresponds to the baseline version that constitute the data

object).

As to **Claim 35**, *Bauer, Midgley in combination with Rabbers teaches* wherein the delta version of the data file does not include content of the data file which is unchanged with respect to the baseline version of the data file *(Bauer, column 2, lines 51-53 wherein the modification corresponds to the delta version of the data file excluding content of the data file which is unchanged with respect to the baseline version of the data file).*

As to **Claim 42**, *Bauer, Midgley in combination with Rabbers teaches* further comprising a client agent of a target computer that is configure to receive a restore data object *(Midgley, Figures 1A-C and 2, page 3 [0034], page 10 [0077], and page 11 [0086]).*

Claims 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,870,765 issued to Bauer et al. (Bauer), further in view of Pub. No. US2005/0071390 issued to Midgley et al. ("Midgley") and further in view of US Patent No. 7,257,649 issued to Rabbers et al. ("Rabbers") as applied to claims 15 and 19 above respectively, and further in view of Pub. No. US2004/0078602 issued to Rothbarth et al. ("Rothbarth").

As to **Claim 36**:

Bauer, Midgley in combination with Rabbers teaches all the elements of Claim 15 as stated above.

Bauer, Midgley in combination with Rabbers does not explicitly teach wherein the processing circuitry is configured to obtain the information regarding the capacity of the storage device responsive to the request.

Rothbarth teaches wherein the processing circuitry is configured to obtain the information regarding the capacity of the storage device responsive to the request *(Figure 4, block414-418, page 5 [0046, lines 10-12] wherein information regarding storage space availability is equivalent to information regarding the capacity of the storage device responsive to the request)*. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine method for sharing storage space teaching of Rothbarth with method for transferring information during server synchronization with a computing device teaching of Rabbers, method for backing up data files teaching of Midgley and database synchronizer teaching of Bauer to provide method and system which check device storage capacity.

As to **Claim 37**:

Bauer, Midgley in combination with Rabbers teaches all the elements of Claim 19 as stated above.

Bauer, Midgley in combination with Rabbers does not explicitly teach wherein the processor-usable medium comprises processor usable-code configured to cause processing circuitry of the one of the storage devices to access the information regarding the status comprising capacity information of the one of the storage devices responsive to receiving the request to store the

delta version, and wherein the initiation of the storage of the delta version responsive to analysis of the capacity information.

Rothbarth teaches wherein the processor-usable medium comprises processor usable-code configured to cause processing circuitry of the one of the storage devices to access the information regarding the status comprising capacity information of the one of the storage devices responsive to receiving the request to store the delta version, and wherein the initiation of the storage of the delta version responsive to analysis of the capacity information *(page 6 [0050, lines 41-49)*. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine method for sharing storage space teaching of Rothbarth with method for transferring information during server synchronization with a computing device teaching of Rabbers, method for backing up data files teaching of Midgley and database synchronizer teaching of Bauer to provide method and system which determine capacity of storage device.

As to **Claim 38**:

Bauer, Midgley in combination with Rabbers teaches all the elements of Claim 19 as stated above.

Bauer, Midgley in combination with Rabbers does not explicitly teach wherein the code to initiate the storage of the delta version using the other of the storage devices responsive to the information indicating that the one of the storage devices has insufficient capacity to store the delta version.

Rothbarth teaches wherein the code to initiate the storage of the delta version using the other of the storage devices responsive to the information indicating that the one of the storage devices has insufficient capacity to store the delta version *(Figure 4, block414-418, page 6 [0050, lines 41-49).* Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine method for sharing storage space teaching of Rothbarth with method for transferring information during server synchronization with a computing device teaching of Rabbers, method for backing up data files teaching of Midgley and database synchronizer teaching of Bauer to provide method and system which determine capacity of storage device.

As to **Claim 39**:

Bauer, Midgley in combination with Rabbers teaches all the elements of Claim 19 as stated above.

Bauer, Midgley in combination with Rabbers does not explicitly teach wherein the processor-usable medium comprises processor usable-code configured to cause processing circuitry of the one of the storage devices to initiate the storage of the delta version using the other of the storage devices to provide increased storage capacity of the data management system.

Rothbarth teaches wherein the processor-usable medium comprises processor usable-code configured to cause processing circuitry of the one of the storage devices to initiate the storage of the delta version using the other of the storage devices to provide increased storage capacity of the data management

system *(Figure 4 wherein block409 initiates request for storing data, wherein block414 checks available storage capacity, wherein block416 designates the storage device, page 5 [0046, lines 19-21).* Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine method for sharing storage space teaching of Rothbarth with method for transferring information during server synchronization with a computing device teaching of Rabbers, method for backing up data files teaching of Midgley and database synchronizer teaching of Bauer to provide method and system which verify storage device capacity and determine the storage device to store the data.

Citation of Pertinent Prior Art

10. The prior art made of record and not relied upon in form PTO-892 if any is considered pertinent to applicant's disclosure.

Response to Arguments

11. Applicant's arguments filed on 11/04/08 with respect to claims 1, 3-39 and 42 have been considered but are moot in view of the new ground(s) of rejection. Furthermore,

- Applicant argues on paragraph 1 of page 15 that "However, Rabbers fails to even suggest "processing circuitry configured to control storage operations of at least one of the storage devices to process a restore request with respect to the data object, to access the delta version from the other of the storage devices responsive to the restore request, **wherein accessing the delta**

version includes querying a trafficking database of a cell manager to obtain data indicating storage locations of the delta version" as recited in claim 1, as amended. For at least this reason, claim 1, as amended, is allowable" (same argument to similar Claims 11, 15, 19 and 23).

Examiner responds: Examiner is not persuaded. *Midgley teaches* wherein accessing the delta version includes querying a trafficking database *in Figures 1A-C, page 11 [0091]* of a cell manager to obtain data indicating storage locations of the delta version *in Figures 3-5, page 1 [0014]; and page 10 [0073]* as recited in Claim 1 (similar Claims 11, 15, 19 and 23).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Ha Dang whose telephone number is 571-272-4033. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thanh-Ha Dang
Examiner, AU 2163
December 31, 2008

/don wong/

Supervisory Patent Examiner, Art Unit 2163